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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/562,335

12/23/2005

Makoto Ikeda

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CARRIER BLACKMAN AND ASSOCIATES

24101 NOVI ROAD

SUITE 100

NOVI, MI 48375

EXAMINER

GRAMLING, SEAN P

ART UNIT

PAPER NUMBER

2875

NOTIFICATION DATE

DELIVERY MODE

04/02/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/562,335	<b>Applicant(s)</b> IKEDA ET AL.	
	<b>Examiner</b> SEAN P. GRAMLING	<b>Art Unit</b> 2875	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Amendment*

1. Acknowledgment is made of Amendment filed January 9, 2009. Claims 1 and 5-6 are amended. Claims 1-20 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-2 and 5-20** are rejected under 35 U.S.C. 102(e) as being anticipated by *Fukasawa* (US 2003/0218811).
4. Regarding claim 1, *Fukasawa* discloses an elongate bar-shaped light guide having an end face (light entry face of light guide medium GB, see Figure 7) at a longitudinal end thereof as well as a light-emitting face 7 and two internal side faces 3a extending in a longitudinal direction of the guide, wherein when light from a light source 1a is incident on the end face, the light enters into the light guide, is reflected by the internal side faces 3a and is emitted from the light-emitting face and a concentrating position of lights reflected by one side face and a concentrating position of lights reflected by the other side face are different from each other (see specifically paragraph

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[0081], "the two reflecting surfaces may be asymmetrical, or the positions of the focuses of the two curved may be set independently from each other in accordance with the area to be illuminated"), and wherein the internal side faces 3a cause the light emitted from the light-emitting face to be concentrated outwardly of the light guide into a line shape having an area less than that of the light-emitting face 7, focusing positions of lights reflected by the two internal side faces are spaced away from the light emitting face outwardly of the light guide, the two internal side surfaces 3a are oval arc curves of paraboloid curves and curved surface of the oval or paraboloid curves have differently shaped areas such that light emitted after being reflected by the two curved surfaces focus at different distances from the curved surfaces (see Figures 5-9 and paragraphs [0063]-[0081] and [0129]-[0130]).

5. Regarding claim 2, the light guide in Fukasawa is integrally formed as a unitary member (see Figures 5 and 7-8).

6. Regarding claim 5, Fukasawa discloses an elongate bar-shaped light guide having an end face (light entry face of light guide medium GB, see Figure 7), as well as an emitting face 7 and two internal side faces 3a extending in a longitudinal direction of the light guide, wherein lights 1a incident on the end face enter the light guide, are reflected by the internal side faces 3a and emitted from the emitting face 7, the internal side faces 3a cause the light emitted from the light-emitting face to be concentrated outwardly of the light guide into a line shape having an area less than that of the light-emitting face 7, focusing positions of lights reflected by the two internal side faces are spaced away from the light-emitting surface outwardly of the light guide (see specifically

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paragraph [0081], "the two reflecting surfaces may be asymmetrical, or the positions of the focuses of the two curved may be set independently from each other in accordance with the area to be illuminated"), and sectional shapes of both of the two internal side faces 3a are oval arc curves and a difference in focal distance between the oval curves causes focusing positions of lights reflected by the two internal side faces to be different (see Figures 5-9 and paragraphs [0063]-[0081] and [0129]-[0130]).

7. Regarding claim 6, Fukasawa discloses an elongate bar-shaped light guide having an end face (light entry face of light guide medium GB, see Figure 7), as well as a light-emitting face 7 and internal side faces 3a extending in a longitudinal direction of the light guide, wherein lights 1a incident on the end face enter the light guide, are reflected by the internal side faces 3a and emitted from the emitting face 7, sectional shapes of the internal side surfaces 3a have two oval arc curved areas and focusing positions of reflected lights differ from one oval arc curve to the other (see specifically paragraph [0081], "the two reflecting surfaces may be asymmetrical, or the positions of the focuses of the two curved may be set independently from each other in accordance with the area to be illuminated"), the internal side faces 3a cause the light emitted from the light-emitting face to be concentrated outwardly of the light guide into a line shape having an area less than that of the light-emitting face 7, the focusing positions of lights reflected by the two internal side faces are spaced away from the light-emitting surface outwardly of the light guide, the curved surfaces of the oval arc curves have differently shaped areas such that light emitted after being reflected by the two curved surfaces

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focus at different distances from the curved surfaces (see Figures 5-9 and paragraphs [0063]-[0081] and [0129]-[0130]).

8. Regarding claim 7, Fukasawa discloses an image reader comprising an illuminating unit 11 comprising the light guide according to claim 1, a light source provided at an end face at a longitudinal end of the light guide, and a lens array (8 for converging on light receiving element 9 light radiated from the illuminating unit toward a document 10 and reflected by the document or transmitted by the document and a box (see Figure 11) housing the illuminating unit, the lens array and the light receiving element (see Figures 9-12 and paragraphs [0129]-[0140]).

9. Regarding claim 8, the image reader in Fukasawa includes two of the illuminating units arranged as to cause lights emitted from the light-emitting faces of the light guides thereof to irradiate the same area of an illuminated face of the document (see paragraph [0129]).

10. Regarding claim 9, Fukasawa discloses an image reader comprising an illuminating unit 11 comprising the light guide according to claim 5, a light source provided at an end face at a longitudinal end of the light guide, and a lens array (8 for converging on light receiving element 9 light radiated from the illuminating unit toward a document 10 and reflected by the document or transmitted by the document and a box (see Figure 11) housing the illuminating unit, the lens array and the light receiving element (see Figures 9-12 and paragraphs [0129]-[0140]).

11. Regarding claim 10, the image reader in Fukasawa includes two of the illuminating units arranged as to cause lights emitted from the light-emitting faces of the

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light guides thereof to irradiate the same area of an illuminated face of the document (see paragraph [0129]).

12. Regarding claim 11, Fukasawa discloses an image reader comprising an illuminating unit 11 comprising the light guide according to claim 6, a light source provided at an end face at a longitudinal end of the light guide, and a lens array (8 for converging on light receiving element 9 light radiated from the illuminating unit toward a document 10 and reflected by the document or transmitted by the document and a box (see Figure 11) housing the illuminating unit, the lens array and the light receiving element (see Figures 9-12 and paragraphs [0129]-[0140]).

13. Regarding claim 12, the image reader in Fukasawa includes two of the illuminating units arranged as to cause lights emitted from the light-emitting faces of the light guides thereof to irradiate the same area of an illuminated face of the document (see paragraph [0129]).

14. Regarding claim 13, the light guide in Fukasawa is shaped such that light is emitted in a line shape through the light-emitting face 7 (see Figures 7-8 and paragraph [0071]).

15. Regarding claim 14, the light guide in Fukasawa is shaped such that light is emitted in a line shape through the light-emitting face 7 (see Figures 7-8 and paragraph [0071]).

16. Regarding claim 15, the light guide in Fukasawa is shaped such that light is emitted in a line shape through the light-emitting face 7 (see Figures 7-8 and paragraph [0071]).

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17. Regarding claim 16, the light guide in Fukasawa further comprises a bottom face 6 opposite to the emitting face and a light scattering part formed with the bottom face (see Figure 5 and paragraph [0073]).

18. Regarding claim 17, the light guide in Fukasawa further comprises a bottom face 6 opposite to the emitting face and a light scattering part formed with the bottom face (see Figure 5 and paragraph [0073]).

19. Regarding claim 18, the light guide in Fukasawa further comprises a bottom face 6 opposite to the emitting face and a light scattering part formed with the bottom face (see Figure 5 and paragraph [0073]).

20. Regarding claim 19, the light guide in Fukasawa further comprise a bottom face 6 opposite the light emitting face and the light emitting face including portions disposed at different distances from the bottom face (see Figure 5).

21. Regarding claim 20, the light guide in Fukasawa further comprise a bottom face 6 opposite the light emitting face and the light emitting face including portions disposed at different distances from the bottom face (see Figure 5).

### ***Claim Rejections - 35 USC § 103***

22. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



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23. **Claims 3-4** are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Fukasawa* as applied to claim 1 above and further in view of *Ikeda* (US 2001/0035986).

24. Regarding claims 3-4, the light guide in *Fukasawa* includes oval arcs or paraboloids 3a which constitute reflective faces, but the light guide is an integral member and is not formed into two substantially half pieces with a light scattering part formed in connecting faces of the substantially half pieces. However, *Ikeda* specifically teaches a light guide 41 with a light scattering part 41 b formed in connecting faces of half pieces of the light guide (see *Ikeda*, Figure 6b and paragraph [0090]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to separate the light guide in *Fukasawa* into two substantially half pieces and include a light scattering part between the half pieces as taught by *Ikeda* in order to more uniformly distribute light from light sources 1a along the reflective faces 3a before convergence, and since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art (*Nerwin v. Erlichman*, 168 USPQ 177).

### ***Response to Arguments***

25. Applicant's arguments filed January 9, 2009 with respect to the rejection of the claims in the previous Office Action have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of *Fukasawa* as set forth above.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN P. GRAMLING whose telephone number is (571)272-9082. The examiner can normally be reached on MONDAY-FRIDAY 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sean P Gramling  
Examiner  
Art Unit 2875

/SPG/  
/Sharon E. Payne/  
Primary Examiner, Art Unit 2875